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EXAMINER	
IWASHKO, LEV	
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2186	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/679,267	**Applicant(s)** SASAKI, YOSHIYUKI	
	Examiner Lev I. Iwashko	**Art Unit** 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/4/05,02/23/06*. 4/14/06, 2/27/05, 10/7/03
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendments to the Specification have been noted.

2. Claims 1-20 have not been amended.

3. Claims 1-20 stand rejected.

Claim Rejections - 35 USC § 102

4. The following are quotations of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-4, 8-9, and 15-22 are rejected under U.S.C. 102(e) as being anticipated by Ijtsma et al. (US PGPub 2002/0009028 A1).

Claim 1. An apparatus for recording information, comprising:

- an information recording unit which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*

- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and an updating unit which updates the temporary spare area by copying the reallocated data from the predetermined spare area to another portion of the user data area in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and*

n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors")

Claim 2. The apparatus as claimed in claim 1, wherein said updating unit includes a first updating unit which updates the temporary spare area when the data change is caused by overwriting of the temporary spare area by user data. *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors")*

Claim 3. The apparatus as claimed in claim 1, wherein said updating unit includes a second updating unit which updates the temporary spare area when the data change is caused by recording on the predetermined spare area to which a recording area requested by a user has been reallocated. *(Section 0035 – 0037 – State the following: "Finally, FIG. 8 shows the changes of the Secondary Defect Table (SDT) and Temporary Defect Table (TDT) as disclosed in the above-mentioned applications. The status thereof being illustrated in FIG. 8A, while the new embodiments being illustrated in FIG. 8B and 8C, respectively with a minimum size and maximum size. It is noted that the Sentinel Packet (STL) is replaced by a Secondary Info Packet (SIP), which has a fixed position, directly before the SUP packet and cannot be moved or spared. The Secondary Defect Table (SDT) is still a copy of the Main Defect Table (MDT) but now SDT1 . . . SDT8 is* *possible. Growing into the replacements results in marking the replacements as unusable. An update counter is still used to detect a mismatch between MSD and SDT. The SDT is changed in the same way as the SDT." Claim 6, lines 11-19 – State the following: "reallocating defect areas to a spare area on the disc, recording means for recording the signals representing user data along a spiral track on the disc, characterized in that, the defect management means are adapted to reallocate defect areas by a replacement area in the spare area, the size of he replacement area being substantially smaller than the minimum packet size")*

Claim 4. The apparatus as claimed in claim 1, wherein said updating unit includes a second updating unit which updates the temporary spare area when the data change is caused by recording on the predetermined spare area in response to a detection of a defect in the user data area. *(Section 0035 – 0037 – State the following: "Finally, FIG. 8 shows the changes of the Secondary Defect Table (SDT) and Temporary Defect Table (TDT) as disclosed in the above-mentioned applications. The status thereof being illustrated in FIG. 8A, while the new embodiments being illustrated in FIG. 8B and 8C, respectively with a minimum size and maximum size. It is noted that the Sentinel Packet (STL) is replaced by a Secondary Info Packet (SIP), which has a fixed position, directly before the SUP packet and cannot be moved or spared. The Secondary Defect Table (SDT) is still a copy of the Main Defect Table (MDT) but now SDT1 . . . SDT8 is possible. Growing into the replacements results in marking the replacements as unusable. An update counter is still used to detect a mismatch between MSD and SDT. The SDT is changed in the same way as the SDT")*

Claim 8. The apparatus as claimed in claim 1, wherein said updating unit updates the temporary spare area in response to a user request for formatting suspension. *(Section 0057, lines 1-11 – State the following: "It is chosen* *to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")*

Claim 9. An apparatus for recording information, comprising:

- an information recording unit which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*
- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a background formatting unit which carries out formatting of the recording medium in a background; *(Section 0003, lines 19-22 – State the following: "Further background formatting must be done by the drive and not by the application or OS to minimize bus traffic, and interaction between the drive and the OS")*
- a background formatting resumption unit which resumes the background formatting when the recording medium is partially formatted; *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way,*

sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")

- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and a resuming unit which resumes the formatting in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")*

Claim 15. A method of recording information, comprising:

- an information recording step of recording data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital* *information signals on a removable rewritable disc like recording medium")*

- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a data reallocating step of reallocating data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording step of generating a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and an updating step of updating the temporary spare area by copying the reallocated data from the predetermined spare area to another portion of the user data area in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by*

replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors")

Claim 16. A method of recording information, comprising:

- an information recording step of recording data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*
- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a background formatting step of carrying out formatting of the recording medium in a background; *(Section 0003, lines 19-22 – State the following: "Further background formatting must be done by the drive and not by the application or OS to minimize bus traffic, and interaction between the drive and the OS")*
- a background formatting resumption step of resuming the background formatting when the recording medium is partially formatted; *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-*

system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")

- a data reallocating step of reallocating data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording step of generating a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and a resuming step of resuming the formatting in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")*

Claim 17. A computer-readable record medium having a program embodied therein for causing a computer to record information, said program comprising:

- an information recording unit which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*

- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and an updating unit which updates the temporary spare area by copying the reallocated data from the predetermined spare area to another portion of the user data area in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and*

n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors")

Claim 18. A computer-readable record medium having a program embodied therein for causing a computer to record information, said program comprising:

- an information recording unit which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*
- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a background formatting unit which carries out formatting of the recording medium in a background; *(Section 0003, lines 19-22 – State the following: "Further background formatting must be done by the drive and not by the application or OS to minimize bus traffic, and interaction between the drive and the OS")*
- a background formatting resumption unit which resumes the background formatting when the recording medium is partially formatted; *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously,*

after execution of the boot, the drive will return as "case 1" or "case 2"")

- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and a resuming unit which resumes the formatting in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")*

Claim 19. A system for recording information, comprising:

- an information recording apparatus which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*

- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- and a host apparatus which instructs said information recording apparatus to record data on the recording medium, wherein said information recording apparatus and said host apparatus together include: an information recording unit which records data on the recording medium; *(Section 0019, lines 1-12 – State the following: "FIG. 1 illustrates schematically the basic format of a CD-ROM, as known from the relevant standard, which is often denoted to as the 'Yellow book', in analogy to the 'Red book' standard for the audio CD. Descriptions of the physical standard of the CD-ROM can be found in the public available documents ISO/IEC 10149, of the audio-CD in IEC 908. The physical standard for the recordable CD, denoted as the 'Orange book; is disclosed in ISO/IEC 11172/1/2/3/. The standard for the logical format of the CD-ROM is described in ISO-9660 (the High Sierra standard) and for the recordable CD in ECMA 168/ISO13940 (the Frankfurter proposal)")*
- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating*

defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")

- and an updating unit which updates the temporary spare area by copying the reallocated data from the predetermined spare area to another portion of the user data area in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors")*

Claim 20. A system for recording information, comprising:

- an information recording apparatus which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*
- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*

- and a host apparatus which instructs said information recording apparatus to record data on the recording medium, wherein said information recording apparatus and said host apparatus together include: an information recording unit which records data on the recording medium; *(Section 0019, lines 1-12 – State the following: "FIG. 1 illustrates schematically the basic format of a CD-ROM, as known from the relevant standard, which is often denoted to as the `Yellow book`, in analogy to the `Red book` standard for the audio CD. Descriptions of the physical standard of the CD-ROM can be found in the public available documents ISO/IEC 10149, of the audio-CD in IEC 908. The physical standard for the recordable CD, denoted as the `Orange book; is disclosed in ISO/IEC 11172/1/2/3/. The standard for the logical format of the CD-ROM is described in ISO-9660 (the High Sierra standard) and for the recordable CD in ECMA 168/ISO13940 (the Frankfurter proposal)")*
- a background formatting unit which carries out formatting of the recording medium in a background; *(Section 0003, lines 19-22 – State the following: "Further background formatting must be done by the drive and not by the application or OS to minimize bus traffic, and interaction between the drive and the OS")*
- a background formatting resumption unit which resumes the background formatting when the recording medium is partially formatted; *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously,*

after execution of the boot, the drive will return as "case 1" or "case 2"")

- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and a resuming unit which resumes the formatting in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")*

Claim 21. A program for causing a computer to record information, comprising:

- an information recording unit which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*

- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and an updating unit which updates the temporary spare area by copying the reallocated data from the predetermined spare area to another portion of the user data area in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and*

n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors")

Claim 22. A program for causing a computer to record information, comprising: *(Section 0063, lines 1-2 – State the following: "The invention may be implemented by means of both hardware and software")*

- an information recording unit which records data on a recording medium *(Abstract, lines 2-3 – State the following: "recording digital information signals on a removable rewritable disc like recording medium")*
- having a user data area for recording of user requested data *(Abstract, lines 3-4 – State the following: "recording user data on a logical area of the disc")*
- and having a predetermined spare area for reallocating a defect present in the user data area; *(Section 0018, lines 1-2 – State the following: "FIG. 9 shows important boot sectors on the disc and their remapped locations in the spare area")*
- a background formatting unit which carries out formatting of the recording medium in a background; *(Section 0003, lines 19-22 – State the following: "Further background formatting must be done by the drive and not by the application or OS to minimize bus traffic, and interaction between the drive and the OS")*
- a background formatting resumption unit which resumes the background formatting when the recording medium is partially formatted; *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can*

safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")

- a data reallocating unit which reallocates data to said predetermined spare area; *(Claim 1, lines 10-11 – State the following: "reallocating defect areas to a spare area on the disc")*
- a temporary spare area recording unit which generates a temporary spare area in a portion of the user data area by copying the reallocated data from the predetermined spare area to the portion of the user data area; *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a spare area, the size of the replacement area being substantially smaller than the minimum packet size")*
- and a resuming unit which resumes the formatting in response to a data change in one of the temporary spare area and the predetermined spare area. *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"")*

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

> such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5-6 and 13-14 are rejected under 35 U.S.C.103(a) as being unpatentable over Ijtsma et al. as applied to claims 1 and 9 above, further in view of Wu (US PGPub 2003/0237020 A1).

Ijtsma teaches the limitations of claims 1 and 9 for the reasons above.

Ijtsma's invention differs from the claimed invention in that there is no specific reference to DVD+MRW.

Ijtsma fails to teach claims 5-6 and 13-14, which respectively state "The apparatus as claimed in claim 1, wherein said recording medium is one that complies with a DVD+MRW standard, the predetermined spare area being a Spare Area 2 and the temporary spare area being a Temporary Spare Area 2, wherein said updating unit newly records the Temporary Spare Area 2 following a last written address in response to the data change in the Temporary Spare Area 2, followed by recording a Temporary Secondary Table Area and a Temporary Lead Out", "The apparatus as claimed in claim 1, wherein said recording medium is one that complies with a DVD+MRW standard, the predetermined spare area being a Spare Area 2 and the temporary spare area being a Temporary Spare Area 2, wherein said updating unit newly records the Temporary Spare Area 2 following a last written address in response to the data change in the Spare Area 2, followed by recording a Temporary Secondary Table Area and a Temporary Lead Out", "The apparatus as claimed in claim 9, wherein said recording medium is one that complies with a DVD+MRW standard, the predetermined spare area being a Spare Area 2 and the temporary spare area being a Temporary Spare Area 2, wherein said resuming unit resumes the formatting in response to the data change in the Temporary Spare Area 2", and "The apparatus as claimed in claim 9, wherein said recording medium is one that complies with a DVD+MRW standard, the predetermined spare area being a Spare Area 2 and the temporary spare area being a Temporary Spare Area 2, wherein said resuming unit resumes the formatting in response to the data change in the Spare Area 2." However, Wu's invention discloses the following: "According to similar allocation principle in DVD+MRW, the track 24 also has a L12 for marking the beginning of the track 24, a DZ (data zone) for recording the data, and a L02 for marking the end of the track 24. There is a MTA2 for storing a defect table in the L12. The DZ is also divided into a GAA2 (General Application Area), a STA2 (Secondary Table Area) for storing the copy of the defect table, a UDA (User Data Area), and two SA1, SA2 (Spare Area). Similarly, the UDA has a plurality of BdO (like 139218 ECC blocks), and both SA1 and SA2 have a plurality of Bs0 (like 256 and 3840 ECC blocks respectively)" (Section 0010, lines 1-12). It would have been obvious to one of ordinary skill in the art, having the teachings of the "Method of Immediate Writing or Reading Files on a Disc Like Recording Medium" of Ijtsma and Wu's "Method For Accessing Data on Defected Optical Disc" before him at the time the invention was made, to combine the inventions to allow include DVD+MRW capability so that a broader spectrum of DVD media could be utilized, thereby making the system more versatile.

8. Claim 7 is rejected under 35 U.S.C.103(a) as being unpatentable over Ijtsma et al. as applied to claim 1 above, further in view of Mahajan (US Patent 5,437,012 A).

Ijtsma teaches the limitations of claim 1 for the reasons above.

Ijtsma's invention differs from the claimed invention in that there is no specific reference to the user requesting the unit to eject.

Ijtsma fails to teach claim 7, which states "The apparatus as claimed in claim 1, wherein said updating unit updates the temporary spare area in response to a user request for ejection of the recording medium." However, Mahajan's invention discloses the following: "However, in the case that the user requests that the card be ejected in step S808, all flagged entries in each file journal 92 of the virtual image are stored to optical memory card 1. That is, those areas of updatable directory field 42, newly created files, file headers, and existing file headers are updated at this time" (Column 9, lines 41-47). It would have been obvious to one of ordinary skill in the art, having the teachings of the "Method of Immediate Writing or Reading Files on a Disc Like Recording Medium" of Ijtsma and Mahajan's "System for updating directory information and data on write once media such as an optical memory card" before him at the time the invention was made, to combine the inventions to allow users to request the unit to eject so that the unit would be more user friendly.

9. Claims 10-12 are rejected under 35 U.S.C.103(a) as being unpatentable over Ijtsma et al. as applied to claim 9 above.

Ijtsma teaches the limitations of claim 9 for the reasons above.

Ijtsma's invention differs from the claimed invention in that there is no specific reference to how the resuming unit is initiated, nor a second resuming unit.

Ijtsma fails to teach claims 10-12, which respectively state "The apparatus as claimed in claim 9, wherein said resuming unit includes a first resuming unit which resumes the formatting when the data change is caused by overwriting of the temporary spare area by user data", "The apparatus as claimed in claim 9, wherein said resuming unit includes a second resuming unit which resumes the formatting when the data change is caused by recording on the predetermined spare area to which a recording area requested by a user has been reallocated", and "The apparatus as claimed in claim 9, wherein said resuming unit includes a second resuming unit which resumes the formatting when the data change is caused by recording on the predetermined spare area in response to a detection of a defect in the user data area." However, Ijtsma's invention discloses an "updating unit" in Claims 2-4, which initiates in the same manner that is presented for the resuming unit in claims 10-12. Therefore, it would have been obvious for one skilled in the art to apply the same conditions to the resuming unit as the updating unit, so that initialization of the units was uniform, thereby making the system more efficient. Furthermore, it would have been obvious for one skilled in the art to have a second resuming unit for futher efficiency and versatility.

Response to Arguments

10. Applicant's arguments (filed June 16, 2006) with respect to claims 1-20 have been considered but do not overcome the prior art.

11. With regards to Claim 1, the Applicant alleges that "Ijtsma fails to disclose or suggest the updating unit of claim 1." However, the examiner maintains that the previous rejection still applies, namely the underlined portion as follows: *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and n contains non UDF data, which prevents UDF to*

start and ISO 9660 to load the remapper driver. The General Purpose Area (GPA) contains the remapped sectors"). Since the packet is replaced, it is inevitably updated. Therefore in view of the above teachings, the Applicant's arguments are moot in view of the prior art.

12. Further regarding Claim 1, the Applicant alleges that "Ijtsma does not provide the temporary spare area of claim 1". However, the examiner maintains that the previous rejection still applies, namely the underlined portion as follows: *(Claim 1, lines 12-16 – State the following: "recording said packets on the disc along a spiral track, characterized by, reallocating defect areas by a replacement area in a* *spare area**, the size of the replacement area being substantially smaller than the minimum packet size").* Therefore in view of the above teachings, the Applicant's arguments are moot in view of the prior art.

13. Finally regarding Claim 1, the Applicant alleges that "Ijtsma does not update a temporary spare area by copying reallocated data from a predetermined spare area to another portion of the user data area. However, the examiner maintains that the previous rejection still applies, namely the underlined portion as follows: *(Section 0048, lines 1-12 – State the following: "FIG. 9A shows the location of the above-mentioned sectors on a disc formatted according the format specified in the previous-mentioned applications. FIG. 9B shows the remapping of these locations to spare area according to an embodiment of the invention. Packet 1 is spared from too many overwrites by file system used of other sectors. This is done by replacing the complete packet as mentioned before. However the sector retains boot and ISO 9660 capabilities. Sectors 256, n-256 and n contains non UDF data, which prevents UDF to start and ISO 9660 to load the remapper driver.* *The General Purpose Area (GPA) contains the remapped sectors**").* The GPA

sections are another data area. Therefore in view of the above teachings, the Applicant's arguments are moot in view of the prior art.

14. Claims 2-8 stand rejected due to their dependence on rejected independent Claim 1.

15. With regards to Claim 9, the Applicant alleges that "Ijtsma does not disclose the temporary spare area recording unit of claim 9, not does it disclose or suggest the recited resuming unit". However, the examiner maintains that the previous rejection still applies, namely the underlined portion as follows: *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot sector. This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"").* The fact that the sector is saved for later use denotes a temporary area space. The fact that the drive returns as case 1 or case 2 denotes resumption capabilities. Therefore in view of the above teachings, the Applicant's arguments are moot in view of the prior art.

16. Further regarding Claim 9, the Applicant alleges that "Ijtsma says nothing about resumption of formatting in response to a data change in temporary or predetermined spare areas". However, the examiner maintains that the previous rejection still applies, namely the underlined portion as follows: *(Section 0057, lines 1-11 – State the following: "It is chosen to spare sector 17 at the formatting time of the media, in order to prevent that the packet containing sector- 17 can be worn out by DOW from other use prior to adding the boot-information. This way, sector 17 can be saved for later use, until the original sector- 17 will be filled in as boot*

sector. *This way original location sector- 17 can safeguarded to allow legacy-system boot-compatibility Obviously, after execution of the boot, the drive will return as "case 1" or "case 2"").* The original sector 17 denotes the predetermined spare areas. Therefore in view of the above teachings, the Applicant's arguments are moot in view of the prior art.

17. Claims 15-22 stand rejected due to their dependence on rejected independent Claim 9.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lev I. Iwashko whose telephone number is (571)272-1658. The examiner can normally be reached on M-Th, from 8-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571)272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lev Iwashko

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